5.3 POST-PROCESSING / ANALYSIS TOOLS AND UTILITIES

Post-processing output data from continuous and distributed hydrologic models like the SFWMM is necessary to effectively analyze the results of a particular modeling run. The South Florida Water Management Model simulates both stages and flows across more than 1,700 grid cells and at least 300 discharge points for 11,321 time steps (1965-1995) -- over 45 million distinct values. The following post-processing tools had been developed and enhanced through the years in order to help summarize the massive amounts of output generated by the model. The final products from these post-processing tools are presented as part of the discussion on modeling related to recent District projects such as the Lower East Coast Regional Water Supply Plan (SFWMD, 1997).

addlake2 = adds Lake Okeechobee (LOK) stage data to a *grid_io* formatted binary file that includes only computational grid cells within the model domain. The output is also a *grid_io* binary file.

cell_cat = produces an ASCII output file with the entire time-series of data for a cell or group of cells, as defined in a binary input file in *grid_io* format.

cell_plot = functions similar to *cell_cat* but produces a time series plot.

cell_sum = produces ASCII tabular monthly and yearly sums of input binary data that is in *grid_io* format, for user specified cell(s).

gr_bud = performs water budget for the Natural System Model.

gr_cut = produces a binary file in *grid_io* format containing an areal subset of an existing binary file in *grid_io* format. It requires an ASCII control file that defines the extent of the areal subset.

grid_freq = produces a binary file in *grid_io* format that contains frequency statistics from spatial data stored in *grid_io* format.

grid_math = performs simple mathematical operations (+,-,*,/) on two *grid_io* formatted binary files and produces a *grid_io* formatted binary file. The utility is interactive but can be run on batch mode using an ASCII control file defining the input binary files and the type of operation, among others.

grid_peek = produces the following text description of a binary file in *grid_io* format: header information, grid extents, and date tags of all grid snapshots.

grid_shot = extracts in two different ASCII formats, binary data contained in *grid_io* format for a specified snapshot in time.

gr_summary = produces several statistical summary files like annual and monthly averages,

annual and monthly sums, etc. in *grid_io* format for daily or monthly data stored in a *grid_io* format.

hydroperiod = computes hydroperiods from daily ponding data stored in a *grid_io* data format. Output is also in *grid_io* format.

line_sum = like *cell_sum*, produces ASCII tabular monthly and yearly sums of input binary data that is in *grid_io* format, for user specified line of cell(s). In addition to row & column location of cell(s), user has to specify the direction of flow.

xgridview = a utility to view the individual snapshots in a binary file in *grid_io* format; one dimensional spatial data can be viewed as different colors and two-dimensional data can be viewed as vectors. Needs a *.gridview* control file. Requires *PHIGS*™ license (available only on some District machines).